

Grade 6 SS/ELA
Unit 1: Geography Lesson 4

Lesson 4: “Lat” Lies Flat and “Long” is Just That!

Overview:

This lesson helps students understand lines of latitude and longitude; and practice locating coordinates and actual places in the Eastern Hemisphere on a global grid.

***Suggested time allowance:** 3 class periods*

Standards:

- SS.3.2: Geography requires the development and application of the skills of asking and answering geographic questions; analyzing theories of geography; and acquiring, organizing, and analyzing geographic information.
- L.6.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 6 reading and content*, choosing flexibly from a range of strategies.

Essential Unit Question:

- How can understanding latitude and longitude help us locate real places on Earth?

Resources/Materials for this lesson:

- “Where am I Right Now? Graphic (included)
- “Latitude and Longitude Assessment” (included).
- “Latitude Longitude Map Game.” *Kidsgeo.com*. <http://www.kidsgeo.com/geography-games/latitude-longitude-map-game.php> (Website may be blocked by I.T. due to “games” in address.) Use either on individual computers or as a student-interactive/Smartboard activity. Students practice finding Hannah at given coordinates.
- globe(s) and atlases
- “Google Earth.” www.GoogleEarth.com Type in coordinates and “fly” to places on Earth. Google Earth is a free download. It can be installed on your network.
- different colored markers
- different colored yarn, scissors, glue
- World Maps can be found at
 - www.worldatlas.com (maps: outline/color/physical)
 - www.nationalgeographic.com/xpeditions (standards, maps, activities, lesson plans)

Activities/Procedures:

Day 1

1. Ask the students: Where are you right now? Students’ responses will vary.

Grade 6 SS/ELA
Unit 1: Geography Lesson 4

2. Inform students that although they are in a specific location, where they are can be described in many ways.
3. Either distribute the “Where Am I Right Now?” graphic and discuss, or have the students draw the graphic themselves. If you have them draw it, follow these instructions. Draw a small circle with the word ME inside. Tell the students that they will end up drawing 10 more circles around the ME circle (for a total of 11 concentric circles). Next, draw another circle around your first circle and write the word MY STREET in the top of the circle. . Have students write their own street address in the circle. Draw the next circle and write CITY in the top of the circle. Elicit the name of your city, and write it in the bottom of the circle. Continue drawing larger circles, one at a time, and asking for appropriate locations (County, State, Country) and their corresponding names. Then, write in the next five - Continent, Hemispheres, Planet, Solar System, Galaxy- and allow students time to fill in what they know: North America, Northern Hemisphere and Western Hemisphere, Earth, Solar System, Milky Way Galaxy.
4. Once activity is completed, remind students that even though they can say they are in more than one place at a time they are actually at a specific location on Earth, and when they use a globe or map they can find the exact location of a city or country by using the grid system of latitude and longitude lines. Also discuss GPS technology to help drivers find locations.
5. Using any World Map (printed/wall/Smart Board projection) highlight latitude lines.
6. Inform students that a good mnemonic for remembering the difference between latitude and longitude lines is “Lat lies FLAT.”
7. Identify the Equator as the starting point for lines of latitude – 0° latitude.
8. Show students that latitude lines go from 0° to 90° north to the North Pole and south of the Equator to the South Pole. Locate and identify the poles.
9. Inform students that lines of latitude are parallel to each other and never touch. Also introduce the term “parallels” for another way of referring to latitude lines.
10. Tell students that when you talk about latitude you read the location as “66 degrees North.” Demonstrate how you write “66° N.” Explain that North or South refers to North or South of the Equator.
11. Exit ticket: Have students draw a circle in their notebooks labeled Earth and have them draw and label the equator, lines of latitude north and south of the Equator. Have them identify the North and South Poles as 90° N and 90° S, respectively.

Day 2

1. Refer students to the work done yesterday on location and latitude.
2. Use the map to identify the longitude lines. A good mnemonic for remembering the difference between latitude and longitude is that “Long” is Just That: Long (like long hair flows down).
3. Identify the Prime Meridian as the starting point for lines of longitude – 0° longitude. Using a globe show students that longitude lines go from 0° to 180° east and west of the Prime Meridian.
4. Demonstrate that unlike latitude lines that are parallel, longitude lines are NOT parallel and, because the Earth is round, the longitude lines meet at the poles. Inform students that longitude lines are also called “meridians.”
5. Tell students that when you talk about longitude you read the location as “152 degrees East”. Demonstrate how you write “152° E.”
6. Explain that East or West refers to East or West of the Prime Meridian which is 0°

Grade 6 SS/ELA
Unit 1: Geography Lesson 4

7. Using a map for class demonstration, discuss that where lines of latitude and longitude meet are exact locations. These exact locations can be written with two numbers: coordinates. Stress that the latitude coordinate always comes first.
8. Practice finding exact locations in the Eastern Hemisphere, by placing a star on a spot where latitude and longitude lines meet. Have students write the location coordinates
9. Next, write a set of coordinates and have students come to put a star where the coordinates meet. If the technology is available, use Google Earth to show that real places have exact coordinates that help you find an exact location. Click on the GoogleEarth icon. In the “Fly to” section type in the complete address of your school (name, street address, city, state, zip), then click on the magnifying glass search icon. Locate your school and double click to zoom in. On the bottom of the screen will be the exact latitude and longitude. Locate and read aloud to your students to confirm that every place on earth has an exact geographic location with coordinates. If time allows, you can also type in historical site locations in the “Fly to” section (The Great Pyramid, Giza, Egypt or Taj Mahal, Agra, India or Parthenon, Athens, Greece).
10. Have the students demonstrate that they understand latitude and longitude using one of the following options
 - If you used Styrofoam balls in lesson 3: Using the Styrofoam balls, instruct the students to use a rubber band to model the location of the Equator. Then, use rubber bands of the same color to model latitude lines around the Earth. Next, use a different colored rubber band for the Prime Meridian. Lastly, using rubber bands of a different color demonstrate placement of longitude lines. Use push pins to identify the North and South Poles.
 - If you did not use Styrofoam balls in lesson 3: Using copies of either the printed map from the Resources section or any map with latitude/longitude lines spaced at least an inch apart, have students use different colored markers to label the Equator, lines of latitude, Prime Meridian, lines of longitude, North Pole, South Pole. Remind students to label the Equator, Prime Meridian, North Pole and South Pole with corresponding degrees.
 - Differentiated evaluation: Using either the printed map from the *Resources* section or any map with latitude/longitude lines spaced at least an inch apart, have students use different colored yarn to identify the Equator, lines of latitude, Prime Meridian, lines of longitude, South Pole, and North Pole.
 - “Latitude and Longitude Assessment” (included). Pencil and paper test.

Day 3 Computer access needed

1. Do Now Review Questions:
 - A. Do lines of latitude run East to West on the globe?
 - B. Can I have a line of latitude that is 140°South? Yes? No? Discuss.

Note to teacher:

Question A: Answer: Yes

Point out that in the first question the word RUN means “wraps around”, not “on top of each other,” or “measured”. Students will focus on the words East and West and will think that you are always referring

Grade 6 SS/ELA
Unit 1: Geography Lesson 4

to longitude because longitude is measured East and West of the Prime Meridian. Demonstrate that latitude lines run East/West but are measured north and south of the Equator. Note the reverse for longitude.

Question B: Answer No.

Lines of latitude start at 0 and end at 90 degrees. Longitude lines start at 0 and end at 180 degrees.

2. If you have a SMARTboard/projection screen:
 - Access <http://www.kidsgeo.com/geography-games/latitude-longitude-map-game.php> and demonstrate what the students will do on the website. Practice by having students find Hannah.
 - If you are in a computer lab:
Instruct students to access <http://www.kidsgeo.com/geography-games/latitude-longitude-map-game.php>.
(If the address is confusing for the student to type, pre-load the URL in Student Share or instruct them to go through the following steps:
www.kidsgeo.com, then click on “Geography Games”, then “Latitude and Longitude Games”)
3. Explain that the students will be given coordinates to help find Hannah. The interactive game will become progressively more difficult. Review that latitude comes first when reading coordinates.

Evaluation/Assessment:

- Exit ticket
- “Latitude and Longitude Assessment” (included). Pencil and paper test.

Vocabulary (See Unit Glossary for definitions)

- latitude
- parallel
- Equator
- Prime Meridian
- North Pole
- South Pole